

WHAT IS CLAIMED IS:

1. A wheel speed sensor comprising:

a detection element having at least one lead, for detecting a wheel speed;

5 at least one terminal portion connected to the lead of the detection element;

a holder portion having a detection element fitting portion fitting the detection element therein and a terminal portion fitting portion fitting the terminal
10 portion therein;

an electric wire welded on the terminal portion; and

a resin sealed portion sealing the holder portion in a state that the detection element and the terminal
15 portion are held in the holder portion and the electric wire is connected with the terminal portion,

wherein the detection element fitting portion and the terminal portion fitting portion are disposed such that the lead of the detection element is brought into
20 abutment with or proximity to a predetermined location of the terminal portion when the detection element and the terminal portion are fitted in the detection element fitting portion and the terminal portion fitting portion, respectively.

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2. The wheel speed sensor according to claim 1, wherein the lead of the detection element and the

predetermined location of the terminal portion are connected to each other by welding.

3. The wheel speed sensor according to claim 1,
5 wherein a bent portion is formed in the predetermined location of the terminal portion.

4. The wheel speed sensor according to claim 1,
wherein the detection element is disposed on an end portion
10 of the holder portion.

5. The wheel speed sensor according to claim 1,
wherein the holder portion further comprises an
accommodating groove accommodating the lead of the
15 detection element, the terminal portion fitting portion
being formed in the accommodating groove.

6. The wheel speed sensor according to claim 1,
wherein the terminal portion fitting portion comprises
20 a plurality of terminal portion fitting portions, and
wherein the holder portion includes a shielding
plate formed between the adjacent terminal portion fitting
portions.

25 7. The wheel speed sensor according to claim 1,
wherein the terminal portion is made of a metal,
wherein the terminal portion includes a holding

portion formed in the vicinity to a location of the terminal to which the electric wire is welded, for holding the electric wire in a bundled state, and

wherein the electric wire is welded on the terminal
5 portion in a state that the terminal portion is fitted into the holder portion.

8. The wheel speed sensor according to claim 7,
wherein the holding portion is a notch holding the electric
10 wire therein.

9. The wheel speed sensor according to claim 7,
wherein the terminal portion is formed into a substantially flat plate and
15 wherein the terminal portion comprises a weld portion to which electric wire is welded and a holding piece which is bent from the weld portion at a position where a distal end of the electric wire is located when the electric wire is welded to the weld portion, and
20 wherein the holding portion is formed in the holding piece.

10. A wheel speed sensor comprising:
a detection element for detecting a wheel speed;
25 at least one terminal portion connected to the detection element;
a holder portion holding the detection element and

the terminal portion;

an electric wire welded on the terminal portion;

a resin sealed portion sealing the holder portion
in a state that the detection element and the terminal
5 portion are held in the holder portion and the electric
wire is connected with the terminal portion; and

a rod-like projection projectedly formed on the
holder portion,

wherein when the holder portion is sealed with the
10 resin, the rod-like projection has one end positioned
outside a cavity in a mold and the outer end supporting
the holder portion in a floating fashion within the cavity,
and

wherein after the holder portion is sealed with the
15 resin, a portion of the one end of the rod-like projection
which projects outwardly of the resin sealed portion is
removed.

11. The wheel speed sensor according to claim 10,
20 wherein the rod-like projection has a polygonal cross
section.

12. The wheel speed sensor according to claim 11,
wherein the single rod-like projection is provided on
25 the holder portion.

13. The wheel speed sensor according to claim 10,

wherein the detection element is disposed on an end portion of the holder portion.

14. The wheel speed sensor according to claim 10,
5 wherein a flange portion is formed in the other end side of the rod-like projection.

15. The wheel speed sensor according to claim 10,
wherein a front surface of the resin sealed portion around
10 the rod-like projection is formed in a concave surface.

16. The wheel speed sensor according to claim 10,
wherein the terminal portion is made of a metal,
wherein the terminal portion includes a holding
15 portion formed in the vicinity to a location of the terminal
to which the electric wire is welded, for holding the
electric wire in a bundled state, and

wherein the electric wire is welded on the terminal
portion in a state that the terminal portion is fitted
20 into the holder portion.

17. The wheel speed sensor according to claim 16,
wherein the holding portion is a notch holding the electric
wire therein.

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18. The wheel speed sensor according to claim 16,
wherein the terminal portion is formed into a

substantially flat plate and

wherein the terminal portion comprises a weld portion to which electric wire is welded and a holding piece which is bent from the weld portion at a position where a distal end of the electric wire is located when the electric wire is welded to the weld portion, and

wherein the holding portion is formed in the holding piece.

10 19. A wheel speed sensor comprising:

a detection element for detecting a wheel speed;

at least one terminal portion connected to the detection element;

a holder portion holding the detection element and the terminal portion;

an electric wire welded on the terminal portion;

a resin sealed portion sealing the holder portion in a state that the detection element and the terminal portion are held in the holder portion and the electric wire is connected with the terminal portion; and

a rod-like projection projectedly formed on the holder portion, the rod-like portion being adapted to support the holder portion within a cavity in a floating fashion from the outside when the holder portion is sealed with the resin, the rod-like projection being positioned without projecting from a front surface of the resin sealed portion.

20. The wheel speed sensor according to claim 19,
wherein the terminal portion is made of a metal,

wherein the terminal portion includes a holding
5 portion formed in the vicinity to a location of the terminal
to which the electric wire is welded, for holding the
electric wire in a bundled state, and

wherein the electric wire is welded on the terminal
portion in a state that the terminal portion is fitted
10 into the holder portion.

21. The wheel speed sensor according to claim 20,
wherein the holding portion is a notch holding the electric
wire therein.

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22. The wheel speed sensor according to claim 20,
wherein the terminal portion is formed into a
substantially flat plate and

wherein the terminal portion comprises a weld
20 portion to which electric wire is welded and a holding
piece which is bent from the weld portion at a position
where a distal end of the electric wire is located when
the electric wire is welded to the weld portion, and

wherein the holding portion is formed in the holding
25 piece.

23. A method for producing a wheel speed sensor

comprising the steps of:

holding a detection element and a terminal portion
in a holder portion;

welding an electric wire on the terminal portion;

5 placing the holder portion in a mold in such a manner
as to position one end of a rod-like projection projectedly
formed on the holder portion outside a cavity and allowing
the other end of the rod-like projection to support the
holder portion in a floating fashion within the cavity;

10 clamping the holder portion with the mold;

sealing the holder portion with a resin while the
holding portion is being supported in the floating fashion
within the cavity; and

removing a portion of the one end of the rod-like
15 projection which projects outwardly of a resin-sealed
portion after the resin sealing has been completed.

24. The method for producing a wheel speed sensor
according to claim 23, wherein the terminal portion has
20 a holding portion formed in the vicinity to a location
of the terminal to which the electric wire is welded,
for holding the electric wire in a bundled state,
wherein the electric wire is welded in a state that the
electric wire is held on the holding portion after the
25 terminal portion is previously fitted into the holder
portion.

25. A terminal made of a metal to which an electric wire in which a plurality of thin metallic wires are bundled together to constitute a conducting portion is connected by welding, comprising:

5 a holding portion formed in the vicinity to a location of the terminal to which the conducting portion is welded, for holding the conducting portion in a bundled state.

26. The terminal according to claim 25, wherein
10 the holding portion is a notch holding the conducting portion therein.

27. The terminal according to claim 25, wherein the terminal is formed into a substantially flat plate.
15 and comprises a weld portion to which the conducting portion is welded and a holding piece which is bent from the weld portion at a position where a distal end of the conducting portion is located when the conducting portion is welded to the weld portion, and

20 wherein the holding portion is formed in the holding piece.

28. A method for welding an electric wire in which a plurality of thin metallic wires are bundled together
25 to constitute a conducting portion to a terminal made of a metal, the method comprising the steps of:

preparing a terminal according to claim 25, the

terminal having a holding portion formed in the vicinity to a location of the terminal to which the conducting portion is welded, for holding the conducting portion in a bundled state;

5 holding the conducting portion in the holding portion; and

 welding the conducting portion and the terminal together.